

ENGINEER CORPS OF THE ARMY.

LETTER

FROM

THE SECRETARY OF WAR,

IN RESPONSE TO

A resolution of the House of Representatives concerning the Engineer Corps, where stationed, the character of the public works upon which they are engaged, &c.

JUNE 2, 1876.—Referred to the Committee on Appropriations and ordered to be printed

WAR DEPARTMENT, *June 2, 1876.*

The Secretary of War has the honor to transmit to the House of Representatives report of the Chief of Engineers and accompanying statement, marked A, giving the information called for by House resolution of April 27, 1876, as to the present force of the Engineer Corps, where stationed, character of the public works upon which they are engaged, &c.

J. D. CAMERON,
Secretary of War.

OFFICE OF THE CHIEF OF ENGINEERS,
Washington, D. C., June 2, 1876.

SIR: In reply to the resolution of the House of Representatives of April 27, 1876, as follows:

FORTY-FOURTH CONGRESS, FIRST SESSION.

CONGRESS OF THE UNITED STATES.

IN THE HOUSE OF REPRESENTATIVES, *April 27, 1876.*

On motion of Mr. Cox,

Resolved, That the Secretary of War be directed to report the present force of the United States Engineer Corps; the number of officers of said corps on active duty, and where stationed; the general character of the public works upon which they are employed, and whether any, and what, officers of said corps have been or now are engaged, with or without the approbation of the Department, in the performance of any duties upon any Governmental, State, territorial, municipal, corporate, or private work, similar to those which the civil engineers of this country perform; and also the number of persons that are employed, and from civil life, as engineers and otherwise

in the engineer service of the United States under the War Department, in connection with the public works and surveys of the United States, and the salaries paid to each.

Attest:

GEO. M. ADAMS, *Clerk*.

To the honorable SECRETARY OF WAR.

I have the honor to report, that upon the 27th of April, 1876,

I. "The present force of the United States Engineer Corps" consisted of one hundred and seven commissioned officers and a battalion of sappers, miners, and pontoniers, containing two hundred and fifty-two enlisted men.

II. That upon the same date, "The number of officers of said corps on active duty" was one hundred and four; two officers being off duty, sick, and one temporarily awaiting orders after a change of station; and that the stations of the officers and the particular duties with which they were charged and upon which they were engaged are set forth in the following statement:

Statement showing rank, duties, and address of officers of the Corps of Engineers, United States Army, April 27, 1876.

| Rank. | Namés. | Duties and address. |
|--------------|-------------------------|--|
| Brig. Gen.. | Andrew A. Humphreys | Commanding Corps of Engineers. Member of commission to examine into canal-routes across the isthmus connecting North and South America. Office of the Chief of Engineers, Washington, D. C. |
| Colonel | John G. Barnard | Member of board of engineers for fortifications. Member of Light-House Board. Army Building, Houston and Greene streets, New York City. |
| Colonel | Henry W. Benham | In charge of construction of Forts Winthrop, Independence, and Warren, and work on Long Island Head. Box 209 Boston, Mass. |
| Colonel | John N. Macomb | In charge of improvement of the Upper Mississippi and Illinois Rivers, and Des Moines and Rock Island Rapids of the Mississippi River. The survey for the improvement of that portion of the Mississippi route designated by the Senate Select Committee on Transportation Routes to Seaboard, as improvements upon a system to be provided so as to give from four and a half to six feet depth of water at lowest stages from Falls of Saint Anthony to Alton. Rock Island, Ill. |
| Colonel | James H. Simpson | In charge of improvement of Osage River and Mississippi River, between the mouths of the Illinois and Missouri Rivers, and between the mouths of the Missouri and Ohio Rivers. 417 Pine street, Saint Louis, Mo. |
| Colonel | Israel C. Woodruff | On detached service. Engineer third light-house district. Post-office box 4032, New York City. |
| Colonel | Zealous B. Tower | Member of board of engineers for fortifications. Army Building, Houston and Greene streets, New York City. |
| Lt.-Colonel. | Horatio G. Wright | Member of board of engineers for fortifications. Army Building, Houston and Greene streets, New York City. |
| Lt.-Colonel. | John Newton | In charge of construction of Forts Montgomery, Columbus, Castle William, South Battery, Governor's Island; Wood, Hamilton, and additional batteries; Mortar Battery at Fort Hamilton, and fort at Sandy Hook; manufacture and supply of mastic; improvement of the Hudson River and East Chester Creek, N. Y. Otter Creek, Vt., and Passaic River, N. J.; removal of obstructions in the East and Harlem Rivers, including Hell Gate, N. Y.; harbor improvements at Burlington and Swanton, Vt., Rondout, Port Chester, and Plattsburgh, N. Y.; examination and survey of Port Henry, Lake Champlain; the survey of so much of the third subdivision of the northern route, designated by the Senate Select Committee on Transportation Routes to Seaboard, as extends from Troy, on the Hudson River, to New York City. Army Building, Houston and Greene streets, New York City. |
| Lt. Colonel. | George Thom | In charge of works for improvement of rivers Saint Croix, Machias, Penobscot, Kennebec, Cochecho, New Hampshire, and Merrimac, Massachusetts; of harbors of Camden, Portland, Richmond's Island, Maine; Gloucester, Salem, Boston, Hingham, Plymouth, and Provincetown, Massachusetts; construction of sea-walls of Great Brewster, Deer and Lovell's Islands, Boston Harbor. Portland, Me. |
| Lt. Colonel. | John D. Kurtz | In charge of construction of Forts Delaware, Delaware, and Mifflin, Pennsylvania, battery at Finn's Point, New Jersey, and work opposite Fort Delaware; piers at Newcastle and Lewes, Delaware; harbor improvements at Wilmington, Del., and on Delaware River and Bay; improvement of Cohansey Creek, New Jersey, Delaware and Broadkill Rivers, Delaware and Schuylkill Rivers, Pennsylvania. 1328 Chestnut street, Philadelphia, Pa. |

Statement showing rank, duties, and address of officers, &c.—Continued.

| Rank. | Names. | Duties and address. |
|-------------|------------------------|---|
| Lt. Colonel | Barton S. Alexander.. | Senior engineer charged with general supervision and inspection of all matters under the command of the Chief of Engineers within the Pacific territory. Member of board of engineers for fortifications on the Pacific coast. San Francisco, Cal. |
| Lt. Colonel | William F. Reynolds.. | On detached service. Engineer fourth light-house district. 532 Walnut street, Philadelphia, Pa. |
| Lt. Colonel | Charles S. Stewart.... | In charge of construction of fortifications at Fort Point, Point San José and Angel Island, San Francisco, and at San Diego, Cal., and improvement of San Diego Harbor. Member of board of engineers for fortifications on the Pacific coast. San Francisco, Cal. |
| Lt. Colonel | Charles E. Blunt..... | In charge of improvement of harbors of Port Clinton, Monroe, Toledo, Sandusky City, Huron, Vermillion, Black River, Rocky River, Cleveland, Grand River, Ashtabula, Conneaut, Erie, Dunkirk, and Buffalo, on Lake Erie; and construction of Fort Porter, New York, and of Fort Wayne, Michigan. Engineer tenth light-house district. Buffalo, N. Y. |
| Lt. Colonel | James C. Duane | In charge of construction of Forts Gorges, Preble, Scammel, Popham, Knox, and battery at Portland Head, Maine, and Forts Constitution and McClary, and batteries on Jerry's Point and Gerrish's Island, Portsmouth Harbor, New Hampshire. Engineer first and second light-house districts. Portland, Me. |
| Lt. Colonel | Robert S. Williamson. | On detached service. Engineer twelfth light-house district. Member board of engineers for fortifications on the Pacific coast. San Francisco, Cal. |
| Lt. Colonel | Quincy A. Gillmore... | In charge of construction of Forts Wadsworth, Tompkins and its batteries, New York; Macon and Caswell, North Carolina; Moultrie, Sumter, Johnson, and Castle Pinckney, South Carolina; Jackson and Pulaski, Georgia; Clinch and Marion, Florida; and temporary charge of Forts Monroe and Wool, Virginia. Improvement of Charleston Harbor, South Carolina, Savannah River and Harbor. Member of board to test the strength and value of all kinds of iron, steel, and other metals submitted to it. P. O. Box 1647, New York City. |
| Lt. Colonel | Thos. Lincoln Casey.. | In charge of the first and second divisions. Member of board for investigation and action concerning the ventilation of Hall of House of Representatives. Office of the Chief of Engineers, Washington, D. C. |
| Major..... | Nathaniel Michler.... | Awaiting orders. 1323 Chestnut street, Philadelphia, Pa. |
| Major..... | John G. Parke | In charge of the third division. Office of the Chief of Engineers, Washington, D. C. |
| Major..... | Gouverneur K. Warren | In charge of construction of defenses of New Bedford Harbor, Mass., Narragansett Bay, R. I., improvement of harbors of Wareham, Hyannis, and Fall River, Mass., Wickford and Newport, R. I.; improvement of rivers Taunton, Mass., Pawtucket and Providence, R. I., Pawcatuck, R. I. and Conn., and Connecticut, Conn. Construction of breakwater at Block Island, R. I. Newport, R. I. |
| Major..... | George H. Mendell.... | In charge of construction of fort on Alcatraz Island, and of defenses at Lime Point, San Francisco Bay, breakwater at Wilmington Harbor, California; removal of Rincon Rock in the harbor of San Francisco, and improvement of Oakland Harbor, and Sacramento and Feather Rivers, California. Member of board of engineers for fortifications on the Pacific coast. Member of advisory board of commissioners on the harbor-lines of San Francisco. San Francisco, Cal. |
| Major..... | Henry L. Abbot | Commanding engineer depot and post of Willet's Point and Battalion of Engineers. In charge of construction of Fort Schuyler and fort at Willet's Point, N. Y., and of experiments with torpedoes. Whitestone, Queens County, N. Y. |
| Major..... | William P. Craighill.. | In charge of construction of defenses of Baltimore, Md., and Washington, D. C., improvement of Susquehanna, Patapsco, Chester, Wicomico, and Elk Rivers, Maryland; James and Appomattox Rivers, Virginia; Great Kanawha River, West Virginia; and Cape Fear River, North Carolina; of the harbors of Baltimore and Crisfield, Md. The survey of that portion of the central route designated by the Senate Select Committee on Transportation-Routes to the Seaboard as "a connection by canal or freight-railway from the Ohio River or Kanawha River, near Charleston, by the shortest and most practicable route through West Virginia to tide-water in Virginia;" and "the improvement of the Kanawha River from its mouth to Great Falls, so as to give six feet navigation at all seasons." Union Bank Building, Baltimore, Md. |
| Major..... | Cyrus B. Comstock.... | In charge of survey of northern and northwestern lakes. Detailed to report upon the depth and width of a channel secured and maintained by jetties constructed by James B. Eads at mouth of Mississippi River. Detroit, Mich. |

Statement showing rank, duties, and address of officers, &c.—Continued.

| Rank. | Names. | Duties and address. |
|------------|------------------------|---|
| Major..... | Godfrey Weitzel..... | In charge of improvement of the falls of the Ohio River and Louisville and Portland Canal; of Saint Mary's Falls Canal and Saint Mary's River, and Saint Clair Flats Canal; Saint Clair, Sebawaing, and Saginaw Rivers, Michigan; of harbors Cheboygan, Au Sable River, and Harbor of Refuge on Lake Huron, and removal of obstructions from Detroit River. Survey of the National Park on the island of Mackinaw. Engineer eleventh light-house district. Detroit, Mich. |
| Major..... | Orlando M. Poe..... | On detached service. Aid-de-camp on the personal staff of the General of the Army, with the rank of colonel. Member of Light-House Board. Washington, D. C. |
| Major..... | David C. Houston..... | In charge of harbor improvements at Milwaukee, Racine, and Kenosha; improvement of the Fox and Wisconsin Rivers. Milwaukee, Wis. |
| Major..... | George H. Elliot..... | In charge of the 4th and 5th divisions. Office of the Chief of Engineers, Washington, D. C. |
| Major..... | Henry M. Robert..... | In charge of harbor improvements at Ontonagon, Eagle Harbor, Marquette, Menomonee, Green Bay, Ahnapee, Two Rivers, Manitowoc, Sheboygan, Port Washington, and Harbor of Refuge at entrance of Sturgeon Bay Canal. Milwaukee, Wis. |
| Major..... | William E. Merrill.... | In charge of improvement of the Ohio, Monongahela, and Wabash Rivers. Engineer in fourteenth light-house district. No. 82 West Third street, Cincinnati, Ohio. |
| Major..... | Walter McFarland.... | In charge of construction of Forts Ontario and Niagara, N. Y., of harbor improvements at Oleott, Oak Orchard, Charlotte, Pultneyville, Big Sodus, Little Sodus, Oswego, Black River, Ogdensburg, Wilson, and Waddington, N. Y. In charge of improvement of the Tennessee River; Cumberland River, below Nashville, Tenn.; Tombigbee River, in Mississippi; and Oostenaula and Coosawattee Rivers, Georgia. On duty under United States Isthmus Canal Commission in connection with the examination of proposed routes for canal between the Atlantic and Pacific Oceans. In charge of the survey designated by the Senate Select Committee on Transportation Routes to the Seaboard as the "Southern route," viz: 1st, for the improvement of the Tennessee River from its mouth to Knoxville, so as to give 3 feet depth at lowest stages of water; and 2d, a communication by canal or freight-railway, from some convenient point on the Tennessee River in Alabama or Tennessee, by the shortest and most practicable route to the Atlantic Ocean. Chattanooga, Tenn. |
| Major..... | Orville E. Babcock.... | In charge of Public Buildings and Grounds and certain public works in the District of Columbia, with the rank of Colonel of Engineers; of work on the east wing of the building for the State, War, and Navy Departments; of Washington Aqueduct and Chain Bridge on the Potomac River, and construction of Anacostia Bridge over the Eastern Branch. Washington, D. C. |
| Major..... | John M. Wilson..... | In charge of works for defense of the mouth of the Columbia River, and improvement of the Upper Willamette, Umpqua, and the Upper Columbia Rivers, Lower Willamette and Columbia Rivers, Oregon. Demarkation and survey of military reservations on San Juan and adjacent islands in Puget Sound. Examinations and surveys at mouth of Nehalem River, and Alsea River and bar, Oregon. Engineer thirteenth light-house district. Portland, Oregon. |
| Major..... | Franklin Harwood.... | On detached service. Engineer fifth light-house district. No. 1 Courtland street, Baltimore, Md. |
| Major..... | John W. Barlow..... | In charge of Forts Griswold and Hale, and the construction of Fort Trumbull, Conn.; improvement of harbors of Stonington, New Haven, Bridgeport, Milford, Westport, Southport, and Norwalk, Conn., Port Jefferson, N. Y.; improvement of rivers Housatonic, Conn., and Peconic, N. Y. New London, Conn. |
| Major..... | Peter C. Hains..... | On detached service. Engineer secretary to Light-House Board. Washington, D. C. |
| Major..... | Francis U. Farquhar.. | In charge of harbor improvements at Superior City, Superior Bay, and Duluth; improvement of Falls of Saint Anthony, and of the Mississippi River above the Falls of Saint Anthony; improvements and surveys on Minnesota River; construction of Meeker's Island lock and dam. In charge of the survey of that portion of the "Mississippi route" designated by the Senate Select Committee on Transportation Routes to the Seaboard as that for the construction of reservoirs at the sources of the river, and that for securing from 3 to 5 feet depth of water at lowest stage above the Falls of Saint Anthony. Saint Paul, Minn. |
| Major..... | George L. Gillespie... | Engineer officer military division of the Missouri. In charge of the construction of the harbors of Chicago, Calumet, Michigan City, and New Buffalo. Chicago, Ill. |

Statement showing rank, duties, and address of officers, &c.—Continued.

| Rank. | Names. | Duties and address. |
|-------------|-------------------------|---|
| Major..... | Charles R. Suter..... | In charge of improvement of the Mississippi, Missouri, Arkansas, White, and Saint Francis Rivers. The examination of that portion of the "Mississippi route" designated by the Senate Select Committee on Transportation-Routes to the Seaboard, as that which relates to the plan and probable cost of securing a depth of from 8 to 10 feet at lowest stage of water between Cairo and New Orleans. Engineer 14th and 15th light-house districts. No. 216 North Eighth street, Saint Louis, Mo. |
| Major..... | Jared A. Smith..... | In charge of construction of Forts Jefferson and Taylor, Florida. Engineer 7th light-house district. Key West, Fla. |
| Major..... | Samuel M. Mansield.. | In charge of harbor improvements at Frankfort, Manistee, Ludington, Pentwater, White River, Muskegon, Grand Haven, Black Lake, Saugatuck, South Haven, and Saint Joseph, on Lake Michigan. Detroit, Mich. |
| Captain.... | W. J. Twining..... | On detached service under the Department of State, upon the joint commission for the survey of the boundary-line along the 49th parallel. 1930 Pennsylvania avenue, Washington, D. C. |
| Captain.... | William R. King..... | Commanding Company B, Battalion of Engineers. Whitestone, Queens County, N. Y. |
| Captain.... | Wm. H. H. Benyaurd.. | In charge of improvement of the Ouachita River in Louisiana and Arkansas, and of the Yazoo River in Mississippi, and Cypress Bayou, Texas; of water-gauges on the Mississippi River and its principal tributaries; removal of raft in Red River, Louisiana; dredging at foot of Sodo Lake, Texas. Memphis, Tenn. |
| Captain.... | Charles W. Howell.... | In charge of construction of Forts Pike, Macomb, Tower Duprès, Battery Bienvenue, tower at Proctorsville, Jackson, Saint Philip, and Livingston. Improvement of the mouth of the Mississippi River, Galveston Harbor, Sabine Pass, and Red Fish Bar in Galveston Bay, and ship-channel San Jacinto River to Bolivar Channel, Galveston Bay, Texas. Drawer 432, New Orleans, La. |
| Captain.... | Garret J. Lydecker... | On duty under immediate orders of Major Houston. 472 Jefferson street, Milwaukee, Wis. |
| Captain.... | Arthur H. Burnham... | On sick leave. 31 Tyler street, Lowell, Mass. |
| Captain.... | Amos Stickney..... | On duty under immediate orders of Colonel Macomb. Keokuk, Iowa. |
| Captain.... | James W. Cuyler..... | On sick leave. Brown, Shipley & Co., London, England. |
| Captain.... | Alexander Mackenzie.. | On duty under immediate orders of Major Weitzel. Louisville, Ky. |
| Captain.... | Oswald H. Ernst..... | Commanding Company E, Battalion of Engineers. On duty at the Military Academy. Instructor of practical military engineering, military signals, and telegraphy. West Point, N. Y. |
| Captain.... | David P. Heap..... | On duty under Board of United States Executive Departments, collecting and arranging articles pertaining to Engineer Department for the International Exhibition of 1876. Room 5, 230 South Third street, Philadelphia, Pa. |
| Captain.... | William Ludlow..... | On detached service. Engineer officer Department of Dakota. Post-office box 11, Saint Paul, Minn. |
| Captain.... | Charles B. Phillips.... | On duty under immediate orders of Major Craighill. Union Bank Building, Baltimore, Md. |
| Captain.... | William A. Jones..... | On detached service. Engineer 6th light-house district. Charleston, S. C. |
| Captain.... | Andrew N. Damrell... | In charge of construction of defenses of Mobile and Pensacola, and fort on Ship Island, Miss.; improvement of harbor of Mobile; of Chattahoochee and Flint Rivers, Georgia; Apalachicola River, Florida; and Warrior and Tombigbee Rivers, Alabama; removal of obstructions in the Choctawhatchie River, Alabama and Florida; dredging the bar at mouth of harbor at Cedar Keys, Fla. Engineer 8th light-house district. Mobile, Ala. |
| Captain.... | Charles J. Allen..... | On duty under immediate orders of Colonel Simpson. 417 Pine street, Saint Louis, Mo. |
| Captain.... | Charles W. Raymond.. | On detached service. On duty at the Military Academy. West Point, N. Y. |
| Captain.... | Lewis C. Overman.... | On duty under immediate orders of Major McFarland. Nashville, Tenn. |
| Captain.... | Alexander M. Miller.. | On detached service. On duty at the Military Academy. West Point, N. Y. |
| Captain.... | Micah R. Brown..... | On duty under immediate orders of Major Comstock, upon improvement of the South Pass of the Mississippi River. Post-office drawer 432, New Orleans, La. |
| Captain.... | Milton B. Adams..... | On duty under immediate orders of Lieutenant-Colonel Blunt. Cleveland, Ohio. |
| Captain.... | William R. Livermore.. | Commanding Company C, Battalion of Engineers. Whitestone, Queens County, N. Y. |
| Captain.... | William H. Heuer..... | On duty under immediate orders of Lieutenant-Colonel Newton. Astoria, N. Y. |
| Captain.... | William S. Stanton.... | On detached service, engineer officer Department of the Platte. Post-office box 544, Omaha, Nebr. |
| Captain.... | A. Nisbet Lee..... | On duty under immediate orders of Major Weitzel. Detroit, Mich. |
| Captain.... | Thomas H. Handbury.. | On detached service. On duty at the Military Academy. West Point, N. Y. |

Statement showing rank, duties, and address of officers, &c.—Continued.

| Rank. | Names. | Duties and address. |
|--------------------|-------------------------|---|
| Captain.... | James C. Post..... | On duty under immediate orders of Lieutenant-Colonel Gillmore. Post-office box 42, Charleston, S. C. |
| Captain.... | James F. Gregory..... | On detached service under the Department of State upon the joint commission for the survey of the boundary-line along the 49th parallel. 1930 Pennsylvania avenue, Washington, D. C. |
| Captain.... | Henry M. Adams..... | On duty under immediate orders of Major Comstock. Detroit, Mich. |
| Captain.... | James Mercur..... | In temporary command of Company A, Battalion of Engineers. Whitestone, Queens County, N. Y. |
| First lieutenant. | Chas. E. L. B. Davis... | On duty under immediate orders of Captain Howell. To assist Major Comstock in the performance of special duty relative to the jetty-system at the mouth of the Mississippi River. Lock-drawer 432, New Orleans, La. |
| First lieutenant. | Benjamin D. Greene.. | Q. M. Battalion of Engineers. A. A. Q. M. & A. C. S., and recruiting officer post of Willet's Point. Whitestone, Queens County, N. Y. |
| First lieutenant. | John H. Weeden..... | On duty under immediate orders of Lieutenant-Colonel Stewart. Post-office box 1358, San Francisco, Cal. |
| First lieutenant. | George M. Wheeler.... | In charge of geographical explorations and surveys west of the 100th meridian. Post-office box 93, Washington, D. C. |
| First lieutenant. | James B. Quinn..... | On duty under immediate orders of Captain Howell. Post-office box 900, Galveston, Tex. |
| First lieutenant. | Daniel W. Lockwood.. | On duty under immediate orders of Major Comstock. Detroit, Mich. |
| First lieutenant. | Ernest Ruffner..... | On detached service. Engineer officer, Department of the Missouri. Fort Leavenworth, Kans. |
| First lieutenant. | John C. Mallory..... | On detached service. Engineer officer, military division of the Pacific. San Francisco, Cal. |
| First lieutenant. | Clinton B. Sears..... | On duty under immediate orders of Colonel Benham. 13 Exchange Place, Boston, Mass. |
| First lieutenant. | Thomas Turtle..... | On duty under immediate orders of Major Craighill. Union Bank building, Baltimore, Md. |
| First lieutenant. | Edward Maguire..... | Do. |
| First lieutenant. | Frederick A. Mahan... | On duty under immediate orders of Major Merrill. No. 82 West Third street, Cincinnati, Ohio. |
| First lieutenant. | Charles F. Powell..... | On duty under immediate orders of Major Comstock. Detroit, Mich. |
| First lieutenant. | Frederick A. Hinman.. | On duty under immediate orders of Major Houston. 472 Jefferson street, Milwaukee, Wis. |
| First lieutenant. | Albert H. Payson..... | On duty at the Military Academy, and with Company E, Battalion of Engineers. West Point, N. Y. |
| First lieutenant. | John G. D. Knight.... | On detached service. On duty at the Military Academy. West Point, N. Y. |
| First lieutenant. | Richard L. Hoxie..... | On detached service. Chief engineer of the District of Columbia, under the direction of the Board of Commissioners. Columbia Building, Fourth-and-a-half street, Washington, D. C. |
| First lieutenant. | Edgar W. Bass..... | Adjutant Battalion of Engineers and post of Willet's Point. Post treasurer and signal-officer. Whitestone, Queens County, N. Y. |
| First lieutenant. | William L. Marshall.. | On duty under immediate orders of Lieutenant Wheeler. Post-office lock-box 93, Washington, D. C. |
| First lieutenant. | Joseph H. Willard.... | On duty under immediate orders of Lieutenant-Colonel Newton. Box 228, Albany, N. Y. |
| First lieutenant. | Eric Bergland..... | On duty under immediate orders of Lieutenant Wheeler. Los Angeles, Cal. |
| First lieutenant. | Samuel E. Tillman.... | On detached service. On duty at Military Academy. West Point, N. Y. |
| First lieutenant. | Philip M. Price..... | On duty under immediate orders of Major Comstock. Detroit, Mich. |
| First lieutenant. | Francis V. Greene..... | On detached service under the Department of State upon the joint commission for the survey of the boundary-line along the 49th parallel. 1930 Pennsylvania avenue, Washington, D. C. |
| First lieutenant. | Carl F. Palfrey..... | On detached service. On duty at the Military Academy. West Point, N. Y. |
| First lieutenant. | William H. Bixby..... | Do. |
| Second lieutenant. | Henry S. Taber..... | On duty with Company B, Battalion of Engineers, Whitestone, Queens County, N. Y. |
| Second lieutenant. | William T. Rossell.... | On duty with Company A, Battalion of Engineers, Whitestone, Queens County, N. Y. |
| Second lieutenant. | Thomas N. Bailey..... | On duty under immediate orders of Major Comstock, Detroit, Mich. |
| Second lieutenant. | Thomas W. Symons.... | On duty with Company C, Battalion of Engineers, Whitestone, Queens County, N. Y. |
| Second lieutenant. | Smith S. Leach..... | On duty with Company B, Battalion of Engineers, Whitestone, Queens County, N. Y. |
| Second lieutenant. | Dan. C. Kingman..... | On duty with Company C, Battalion of Engineers, Whitestone, Queens County, N. Y. |
| Second lieutenant. | Eugene Griffin..... | On duty with Company B, Battalion of Engineers, Whitestone, Queens County, N. Y. |
| Second lieutenant. | Willard Young..... | On duty with Company A, Battalion of Engineers, Whitestone, Queens County, N. Y. |

TABULATED STATEMENT OF THE ABOVE.

| | |
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| Office of the Chief of Engineers including the chief. | 4 |
| On fortifications. | 5 |
| On fortifications and light-house duty. | 3 |
| On fortifications and river and harbor works. | 21 |
| On fortifications, river and harbor works, and light-house duty. | 4 |
| On river and harbor works. | 13 |
| On river and harbor works and light-house duty. | 5 |
| On light-house duty. | 6 |
| On public buildings and grounds. | 1 |
| On duty with Battalion of Engineers. | 15 |
| On survey of northern and northwestern lakes. | 6 |
| On duty at Military Academy instructing cadets. | 7 |
| On duty under board United States Executive Departments, Centennial Exhibition. | 1 |
| On explorations west of one hundredth meridian. | 3 |
| On survey of northern boundary under Department of State. | 3 |
| On sick-leave. | 2 |
| Awaiting orders. | 1 |
| Detached: On duty with the General of the Army, generals commanding departments and divisions, and board of Commissioners of the District of Columbia. | 7 |

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III. That "the general character of the public works upon which the officers of the Corps of Engineers are employed" is as follows:

a. The surveys for and the projecting, planning, and draughting of the plans for the construction or modification of the fortifications of the country, and the actual superintendence of their erection, including the hiring of workmen and purchase of materials.

b. The surveys for, and the projecting, planning, and draughting of the plans for the improvements in navigation of such rivers, harbors, bays, or roadsteads as Congress may direct from time to time to be executed, the actual superintendence of the construction of the same, either by contract or by the hiring of workmen and purchase of materials.

c. As resident engineers of light-house districts, the planning, superintendence of erection, either by contract or days' labor, of all fixed aids to navigation in the shape of light-houses and lighting-apparatus, beacons, spindles, &c., under the direction of the Light-House Board, of which board three officers of the Corps of Engineers are members.

d. The careful geodetic survey of the northern and northwestern lakes, and the projection and publication of the charts used in the navigation of the same.

e. The officering the Battalion of Engineers and the instruction of the same in sapping, mining, pontoniering, field-reconnaissance, and the loading, planting, and firing of electrical torpedoes for the obstruction of the channels and fairways leading into harbors, and the instruction of cadets in the same.

f. Explorations, reconnaissances, and surveys in the western Territories in the interest of easy communication through, and military operations in, the several military departments, or of the development and opening up of the country for settlement, and commercial or mining enterprises.

g. Any other duties which may be assigned by the order of the President, or acts of Congress, as engineer of the District of Columbia, Commissioner of Public Buildings and Grounds, surveys for the establishment of boundary-lines, international or other, instructors of cadets at the Military Academy, engineer officers upon the staffs of command

ing generals, members of commissions, boards, &c., for the discussion of questions connected with the bridging of western rivers, the projection of lines of communication in the interests of commerce, navigation, &c., &c.

IV. In reply to the inquiry "whether any and what officers of said corps have been or now are engaged, with or without the approbation of the Department, in the performance of any duties upon any governmental, State, territorial, municipal, corporate, or private work similar to those which the civil engineers of this country perform," a statement marked "A" is annexed, containing answers, so far as received from the officers of the Corps of Engineers, to this inquiry, and covering a period of five years, from April 27, 1871, to April 27, 1876. In none of these cases have any of the officers been engaged in any sense as a custom in the performance of duties peculiar to the civil engineers of the country. The officers of the Corps of Engineers are all educated at the Military Academy, are taught military and civil engineering, and are capable of solving such problems in either branch of engineering as the Government may require to be solved; but the great divisions of the duties of the Corps of Engineers are not such as corporate companies or rich capitalists employ the civil engineers of the country upon, and cannot be, so long as the navigable waters, the lighting of the coasts, and the charge of the public lands are under the control of the General Government.

V. "The number of persons that are employed, and from civil life, as engineers and otherwise, in the engineer service of the United States under the War Department in connection with the public works and surveys of the United States, and the salaries paid to each," are as follows:

| Occupation. | Number. | Rate of pay. | | |
|-------------------------------|---------|--------------|----------|------------|
| | | Lowest. | Highest. | |
| Assistant engineers..... | 134 | \$75 00 | \$350 00 | Per month. |
| Topographers..... | 2 | 100 00 | 200 00 | Do. |
| Geologists..... | 4 | 80 00 | 360 00 | Do. |
| Mineralogists..... | 1 | 112 50 | 112 50 | Do. |
| Zoölogists..... | 1 | 125 00 | 125 00 | Do. |
| Ethnologists..... | 1 | 175 00 | 175 00 | Do. |
| Physicians..... | 1 | 40 00 | 40 00 | Do. |
| Inspectors..... | 51 | 50 00 | 165 00 | Do. |
| Draughtsmen..... | 68 | 50 00 | 200 00 | Do. |
| Clerks..... | 91 | 60 00 | 250 00 | Do. |
| Recorders..... | 2 | 2 50 | 3 33 | Per day. |
| Overseers..... | 37 | 75 00 | 200 00 | Per month. |
| Captains of steamers..... | 19 | 60 00 | 200 00 | Do. |
| Mates of steamers..... | 5 | 1 50 | 4 16 | Per day. |
| Steam-engineers..... | 34 | 2 00 | 6 66 | Do. |
| Pilots..... | 5 | 1 66 | 5 00 | Do. |
| Other boatmen..... | 119 | 50 | 5 00 | Do. |
| Horses, carts, and teams..... | 68 | 2 25 | 3 60 | Do. |
| Divers..... | 4 | 2 00 | 5 00 | Do. |
| Other employés..... | 1,725 | 33 | 6 00 | Do. |
| | 2,372 | | | |

The physical ability of a corps of officers of fixed numbers to perform work is necessarily limited. When the amount of work imposed upon them requires physical labor in excess of that limit, assistance must necessarily be had. As the requirement for this assistance in the Engineer Department varies constantly and largely, the number of assistant engineers, draughtsmen, clerks, and other employés of the Depart-

ment varies accordingly. The necessity for the employment of assistance has always existed. If there were a sufficient number of officers to do all the engineering and clerical, field, and office work, no civilians would be employed, and only a sufficient number are engaged to execute, with the officers of the corps, the work which is required by acts of Congress, as contained in the several appropriation bills.

The above numbers do not include the workmen employed and paid by contractors or any of the employes upon the light-house establishment.

Very respectfully, your obedient servant,

A. A. HUMPHREYS,
Brig. Gen., Chief of Engineers.

The Hon. SECRETARY OF WAR.

A.

Statement showing "whether any and what officers of said corps (Corps of Engineers) have been or now are engaged, with or without the approbation of the Department, in the performance of any duties upon any Governmental, State, territorial, municipal, corporate, or private work, similar to those which the civil engineers of this country perform."

NOTE.—The time covered in this answer is from April 27, 1871, to April 27, 1876, and the duties the officers have been engaged upon other than those assigned to them by order of the Secretary of War, under acts of Congress, as officers of the Corps of Engineers, are as follows:

| Rank. | Name of officer. | Report of officer. |
|--------------|------------------------|---|
| Brig. Gen.. | A. A. Humphreys..... | Member of advisory board to harbor commissioners of Massachusetts, with sanction of Secretary of War. Advised board of public works, District of Columbia, as to best kind of concrete-pavement, and best method of preserving wood used for paving. Member of board to determine the bulk-head and pier-head lines of Brooklyn, and of board to determine the same on Staten Island; by order of the President. Member of board to prepare plan for improving harbors of Washington and Georgetown; act of Congress. Member of commission to examine into ship-canal routes across the isthmus connecting North and South America; appointment of the President. Member of commission for sale of Philadelphia navy-yard; act of Congress. |
| Colonel.... | John G. Barnard..... | Examined the principal artificial water-ways in Europe, on behalf of the Tehuantepec Railway and Canal Company, in reference to proposed interoceanic ship-canal through Isthmus of Tehuantepec; also investigated use of iron in sea-coast defenses; permission of Secretary of War. Member of advisory commission of engineers, to consider the plans in execution by James B. Eads, for constructing jetties at mouth of the Mississippi River; sanction of the President. Consulting engineer in matter of building bridge over East River across Blackwell's Island. |
| Colonel.... | Henry W. Benham.... | Not any. |
| Colonel.... | John N. Macomb..... | Not any. |
| Colonel.... | James H. Simpson.... | Not any. |
| Colonel.... | I. C. Woodruff..... | Not any. |
| Colonel.... | Z. B. Tower..... | Not any. |
| Lieut. Col.. | H. G. Wright..... | Not any. |
| Lieut. Col.. | John Newton..... | Member of board to determine the bulk-head and pier-lines of Brooklyn, and of board to determine the same on Staten Island; by order of the President. Acted as advisory engineer upon the improvement of the harbor of Montreal; approval of the Secretary of War. Acted as advisory engineer to report upon the bulk-head walls of New York City. Examined and reported upon the Peekskill projected bridge. Has examined plans of structures by private parties. |
| Lieut. Col.. | George Thom..... | Not any. |
| Lieut. Col.. | John D. Kurtz..... | Not any. |
| Lieut. Col.. | Barton S. Alexander.. | Has given opinions upon private, corporate, and municipal works. Has no memoranda of the transactions. Member of advisory commission of engineers to consider the plans in execution by James B. Eads for constructing jetties at mouth of the Mississippi River; sanction of the President. |
| Lieut. Col.. | William F. Reynolds.. | Not any. |
| Lieut. Col.. | Charles S. Stewart.... | Do. |
| Lieut. Col.. | Charles E. Blunt..... | Do. |
| Lieut. Col.. | James C. Duane..... | Do. |
| Lieut. Col.. | R. S. Williamson..... | Do. |

| Rank. | Name of officer. | Report of officer. |
|--------------|------------------------|---|
| Lt. Colonel. | Q. A. Gillmore | Has occasionally been called into consultation by civil engineers and municipal, corporate, and private parties upon works in progress and contemplation, and has given professional advice relating thereto. Gave verbal opinion on method adopted for drainage of Jerseyflats, between Hackensack and Passaic Rivers. Gave opinion on method of repairing Newton Creek pivot bridge. Gave opinion on plan of a bridge across the Hudson River at Peekskill. Is engaged with two other engineers in selecting plan for a bridge across the East River at Blackwell's Island. Examined and gave opinion on the dock-walls of New York City. Has given information on subject of pavements, devices for laying concrete and other masonry under water; quality of bricks, cement, stone, &c. |
| Lt. Colonel. | Thomas Lincoln Casey | At request of Committee on Public Buildings and Grounds, is member of board for investigation and action concerning the ventilation of Hall of House of Representatives, by permission of the Secretary of War. |
| Major..... | Nathaniel Michler.... | Not any. |
| Major..... | John G. Parke | Do. |
| Major..... | G. K. Warren | Assisted in establishing the harbor-lines of Bridgeport, Conn., in 1872. Sanctioned by the Secretary of War. |
| Major..... | George H. Mendell.... | Member of advisory board of commissioners for the determination and location of a harbor-line for the proper modeling of the harbor of San Francisco. Appointed by the Secretary of War. Has had charge of several tidal stations on the Pacific coast, under the direction of the Superintendent of the United States Coast Survey. At the request of the city hall commissioners of San Francisco, made reports to them on two occasions on points and amounts of construction on the new city hall. Has made several reports on special points of engineering to private parties; has no record of these. |
| Major..... | Henry L. Abbot..... | Not any. |
| Major..... | William P. Craighill.. | In 1871, at the request of a commission appointed by the mayor and council of Baltimore, gave opinion as to proper plan for improvement of the stream known as "Jones's Falls," passing through the city. In 1872, at the request of the city of Baltimore, supervised the improvement of the ship-channel leading from the bay to that city. |
| Major..... | Cyrus B. Comstock.... | Contributed articles to Johnson's Cyclopedia. |
| Major..... | Godfrey Weitzel | In 1874, at urgent request of the city authorities of Detroit, acted as member of a commission for selecting a site for the new city water-works. |
| Major..... | Orlando M. Poe..... | Since 1873 has been aide-de-camp to the General of the Army of the United States; by his order. In summer of 1873, acted as engineer secretary to the Light-House Board; permission of the General of the Army. In 1874, in reply to a request from the engineer of the Detroit water-works, gave his views concerning certain questions with reference to location of Detroit water-works. |
| Major..... | David C. Houston | Not any. |
| Major..... | George H. Elliot..... | Not any. |
| Major..... | Henry M. Robert..... | Not any. |
| Major..... | William E. Merrill.... | In 1873, at the request of the water-commissioners of Covington, Ky., examined reservoir at water works building, and recommended plan for making it water-tight. In 1874 calculated for private parties the discharge of a proposed mill-race of given size with varying depths of water. Also, examined for a citizen of Covington the grades of the streets recently opened around his house to show that he had been unnecessarily damaged by defective grades. Was appointed by the district court of Hamilton County, Ohio, special master to see that the tail-race of the Miami Machine Works was constructed in accordance with decree of the court. In 1875 was requested by the mayor of Clifton (suburb of Cincinnati) to give him professional advice as to best method of preventing land-slides in clayey soils; of protecting approaches of bridge over Mill Creek, and of draining several ponds. At the instance of private parties gave opinion on plans for a projected tunnel under the Miami Canal. |
| Major..... | Walter McFarland.... | Examined proposed routes for canal to connect Atlantic and Pacific Oceans. Authorized by Secretary of War. |
| Major..... | Orville E. Babcock.... | On duty with the President, by direction of the Secretary of War. Member of board to prepare plan for improving the harbors of Washington and Georgetown. Act of Congress March 5, 1872. To designate the place at which the Baltimore and Potomac Railroad Company shall construct an iron bridge over Sixth street. Act of Congress May 21, 1872. Member of commission to procure statue of the late General John A. Rawlins. Act of Congress June 10, 1872. Examined and measured paving, curbing, grading, sewerage, and other improvements adjoining property of United States in District of Columbia. Act of Congress January 8, 1873. |

| Rank. | Name of officer. | Report of officer. |
|--------------|-----------------------------|---|
| | | Examined and measured the work done around the Government reservations by the late corporation of Washington and by the board of public works; also work done and to be done to improve streets and avenues around Government property. Act of Congress, March 3, 1873. |
| | | Ascertained and reported the amount of work done and prices paid for improvement of avenues of Washington. Act of Congress, March 3, 1873. |
| | | Had charge of improvement of Congressional Cemetery. Act of Congress, March 3, 1873. |
| | | Caused the Washington and Georgetown Railroad Company and the Metropolitan Railroad Company to remove their tracks from the Capitol grounds. Act of Congress, May 8, 1872. |
| | | To approve lateral branch and points of intersection from Baltimore and Ohio Railroad to Metropolitan branch of said railroad. Act of Congress, June 19, 1874. |
| | | To approve route selected by the Washington City and Point Lookout Railroad Company through the City of Georgetown, D. C. Act of Congress, June 23, 1874. |
| | | Caused the Washington and Georgetown Railroad Company to remove their track from the Washington Aqueduct bridge over Rock Creek. Act of Congress, March 3, 1875. |
| | | Member of commission to procure pedestal for an equestrian statue of General James B. McPherson. Act of Congress, March 5, 1875. |
| Major..... | John M. Wilson..... | Not any. |
| Major..... | Franklin Harwood.... | Do. |
| Major..... | John W. Barlow..... | Do. |
| Major..... | Peter C. Hains..... | Do. |
| Major..... | F. U. Farquhar..... | Do. |
| Major..... | George L. Gillespie.... | Do. |
| Major..... | Charles R. Luter..... | Do. |
| Major..... | Jared A. Smith..... | Do. |
| Major..... | Samuel M. Mansfield.... | Do. |
| Captain.... | William J. Twining.... | No report received. |
| Captain.... | William R. King..... | Not any. |
| Captain.... | William H. H. Ben- yard. | Do. |
| Captain.... | Charles W. Howell.... | Made examination at mouth of Brazos River, in Texas, and reported thereon for a railroad company. |
| Captain.... | G. J. Lydecker..... | Not any. |
| Captain.... | A. H. Burnham..... | Do. |
| Captain.... | Amos Stickney..... | During past year has drilled a militia company between 8 and 9 o'clock in the evening. |
| Captain.... | James W. Cuyler..... | Absent sick. No report. |
| Captain.... | Alexander Mackenzie.. | Not any. |
| Captain.... | O. H. Ernst..... | Has contributed articles to Johnson's Illustrated Universal Cyclo- pedia. |
| Captain.... | David P. Heap..... | Not any. |
| Captain.... | William Ludlow..... | Do. |
| Captain.... | Charles B. Phillips.... | Member of advisory board to aid the State harbor commission of Norfolk and Portsmouth in the determination of port-warden's lines for the harbors of those cities. Appointed by Secretary of War. |
| Captain.... | William A. Jones..... | Not any. |
| Captain.... | Andrew N. Damrell.... | No report received. |
| Captain.... | Charles J. Allen..... | Not any. |
| Captain.... | Charles W. Raymond.. | Performed duty in connection with observation of the transit of Venus. Order of the Secretary of War. |
| Captain.... | Lewis C. Overman.... | Not any. |
| Captain.... | Alexander M. Miller.... | Do. |
| Captain.... | Micah R. Brown..... | Do. |
| Captain.... | Milton B. Adams..... | Do. |
| Captain.... | William R. Livermore.. | Do. |
| Captain.... | William H. Heuer.... | Do. |
| Captain.... | William S. Stanton.... | Do. |
| Captain.... | A. Nisbet Lee..... | Do. |
| Captain.... | Thomas H. Handbury.. | Do. |
| Captain.... | James C. Post..... | Do. |
| Captain.... | James F. Gregory..... | Do. |
| Captain.... | Henry M. Adams..... | Do. |
| Captain.... | James Mercour..... | Do. |
| First lieut. | Charles E. L. B. Davis.. | Do. |
| First lieut. | Benjamin D. Greene.... | Do. |
| First lieut. | John H. Weeden..... | Do. |
| First lieut. | George M. Wheeler.... | Do. |
| First lieut. | James B. Quinn..... | Do. |
| First lieut. | Daniel W. Lockwood.... | Do. |
| First lieut. | Ernest H. Ruffner..... | Do. |
| First lieut. | John C. Mallory..... | Do. |
| First lieut. | Clinton B. Sears..... | While stationed at Los Angeles was consulted as to size, quantity, &c., of pipe for distributing water over a ranch. Also examined and gave opinion on the irrigation of a large ranch near Los Angeles. |
| First lieut. | Thomas Turtle..... | Not any. |

| Rank. | Name of officer. | Report of officer. |
|-------------------|--------------------------|---|
| First lieutenant. | Edward Maguire | Out in the field with General Terry. No report received. No report received. Not any. Do. Do. In 1871 and 1872 gave instruction in military tactics to pupils of a private school near Fort Schuyler. In 1874 made a small map showing proposed division into city lots of a piece of land in San Francisco. |
| First lieutenant. | Frederick A. Mahan .. | |
| First lieutenant. | Charles F. Powell | |
| First lieutenant. | Frederick A. Hinman. | |
| First lieutenant. | Albert H. Payson | |
| First lieutenant. | John G. D. Knight | |
| First lieutenant. | Richard L. Hoxie | Not any. |
| First lieutenant. | Edgar W. Bass | Performed duty in connection with observation of the transit of Venus. Order of the Secretary of War. |
| First lieutenant. | William L. Marshall. | Not any. |
| First lieutenant. | Joseph H. Willard | Do. |
| First lieutenant. | Eric Bergland | Do. |
| First lieutenant. | Samuel E. Tillman | Performed duty in connection with observation of the Transit of Venus. Order of the Secretary of War. |
| First lieutenant. | Philip M. Price | Not any. |
| First lieutenant. | Francis V. Greene | Do. |
| First lieutenant. | Carl F. Palfrey | Do. |
| First lieutenant. | William H. Bixby | Do. |
| 2d lieutenant. | Henry S. Taber | Do. |
| 2d lieutenant. | William T. Rossell | Do. |
| 2d lieutenant. | Thomas N. Bailey | Do. |
| 2d lieutenant. | Thomas W. Symons | Do. |
| 2d lieutenant. | Smith S. Leach | Do. |
| 2d lieutenant. | Daniel C. Kingman | Do. |
| 2d lieutenant. | Eugene Griffin | Do. |
| 2d lieutenant. | Willard Young | Do. |